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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R08-OAR-2011-0870; FRL-9658-9]

Approval and Promulgation of Implementation Plans; South Dakota; Regional Haze State Implementation Plan

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is taking final action to approve a revision to the South Dakota State Implementation Plan (SIP) addressing regional haze submitted by the State of South Dakota on January 21, 2011, along with an amendment submitted on September 19, 2011. EPA has determined that the plan submitted by South Dakota satisfies the requirements of the Clean Air Act (CAA or Act) and our rules that require states to prevent any future and remedy any existing man-made impairment of visibility in mandatory Class I areas caused by emissions of air pollutants from numerous sources located over a wide geographic area (also referred to as the “Regional Haze program”).

DATES: This rule is effective [insert date 30 days after publication in the Federal Register].

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA-R08-OAR-2011-0870. All documents in the docket are listed on the www.regulations.gov Web site. Although listed in the index, some information is not publicly available, e.g., Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through www.regulations.gov, or in hard copy at the Air Program,

Environmental Protection Agency (EPA), Region 8, 1595 Wynkoop Street, Denver, Colorado 80202-1129. EPA requests that if at all possible, you contact the individual listed in the FOR FURTHER INFORMATION CONTACT section to view the hard copy of the docket. You may view the hard copy of the docket Monday through Friday, 8 a.m. to 4 p.m., excluding Federal holidays.

FOR FURTHER INFORMATION CONTACT: Gail Fallon, Air Program, Mailcode 8P-AR, Environmental Protection Agency, Region 8, 1595 Wynkoop Street, Denver, Colorado 80202-1129, (303) 312-6281, or fallon.gail@epa.gov.

SUPPLEMENTARY INFORMATION:

Definitions

For the purpose of this document, we are giving meaning to certain words or initials as follows:

- The words or initials Act or CAA mean or refer to the Clean Air Act, unless the context indicates otherwise.
- The initials BACT mean or refer to best available control technology.
- The initials BART mean or refer to best available retrofit technology.
- The initials CAMD mean or refer to EPA's Clean Air Markets Database.
- The initials CO₂ mean or refer to carbon dioxide.
- The initials DENR mean or refer to the South Dakota Department of Natural Resources.
- The words EPA, we, us or our mean or refer to the United States Environmental Protection Agency.
- The initials FGD or scrubber mean or refer to flue gas desulfurization.
- The initials FIP mean or refer to Federal Implementation Plan.

- The initials FLM mean or refer to Federal Land Manager.
- The initials LNB mean or refer to low NO_x burners.
- The initials NO_x mean or refer to nitrogen oxides.
- The initials NPCA mean or refer to the National Parks Conservation Association.
- The initials NPS mean or refer to the National Park Service.
- The initials NAAQS mean or refer to National Ambient Air Quality Standards.
- The initials PM mean or refer to particulate matter.
- The initials PM_{2.5} mean or refer to particulate matter with an aerodynamic diameter of less than 2.5 micrometers or fine particulate matter.
- The initials PM₁₀ mean or refer to particulate matter with an aerodynamic diameter of less than 10 micrometers or fine particulate matter.
- The initials PSD mean or refer to prevention of significant deterioration.
- The initials RBLC mean or refer to the RACT/BACT/LAER Clearinghouse.
- The initials RP mean or refer to reasonable progress.
- The initials RPG mean or refer to reasonable progress goal.
- The initials SCR mean or refer to selective catalytic reduction.
- The initials SIP mean or refer to State Implementation Plan.
- The initials SNCR mean or refer to selective non-catalytic reduction.
- The initials SO₂ mean or refer to sulfur dioxide.
- The words South Dakota and State mean the State of South Dakota unless the context indicates otherwise.
- The initials URP mean or refer to uniform rate of progress.

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I. Background

We signed our notice of proposed rulemaking on November 29, 2011, and it was published in the Federal Register on December 8, 2011. In that notice, we proposed approval of the State of South Dakota's Regional Haze SIP for the first implementation period (through 2018). 76 FR 76646. A detailed explanation of the CAA's visibility requirements and the Regional Haze Rule as it applies to South Dakota was provided in the notice of proposed rulemaking and will not be restated here. EPA's rationale for proposing approval of the South Dakota SIP revision was described in detail in the proposal, and is further described in this final rulemaking.

South Dakota has one source, Big Stone I Unit 1 (Big Stone I), which is subject to the best available retrofit technology (BART) requirements.¹ Big Stone I is a coal-fired power plant.

¹ See SIP Section 6 for South Dakota's analysis.

The State has identified various BART requirements including emission limits and monitoring, recordkeeping and reporting for Big Stone I. In South Dakota's Administrative Rules, Chapter 74:36:21 notes these requirements apply to a BART-eligible source. Regardless of the generic language, wherever a requirement is identified for a BART-eligible source in Chapter 74:36:21, South Dakota intended for the provisions of the state rule to apply to Big Stone I.

II. Issues Raised by Commenters and EPA's Responses

This action addresses comments on the South Dakota Regional Haze SIP. The publication of EPA's proposed rule on December 8, 2011 initiated a 60-day public comment period that ended on February 6, 2012. During the public comment period we received written comments from the State of South Dakota, CREDO Action, the National Parks Conservation Association (NPCA), the Sierra Club, and the National Park Service (NPS). We have reviewed the comments and provided our responses below. Full copies of the comment letters are available in the docket for this rulemaking.

A. General Comments on the Big Stone I BART Determination

Comment: One commenter stated that South Dakota is not excused from following a reasonable analysis in evaluating BART and setting BART emission limits because Big Stone I has a generating capacity less than 750 MW. South Dakota is still obligated to comply with BART as defined at 40 CFR 51.301 and to include controls with the top level of pollutant removal efficiency in evaluating the "best system of continuous emission reduction."

Because South Dakota did not consider the capabilities of various pollution controls in its BART analysis for Big Stone I, its cost impact analysis is skewed in favor of low-cost equipment, and does not evaluate cost impacts in terms of pollution reduced. The State must consider varying levels of pollution control efficiency in its Big Stone BART analyses.

Response: We agree with the commenter that the Regional Haze Rule requires states to consider the most stringent level of control. However, we disagree with the statements that South Dakota's BART analysis is skewed in favor of low-cost equipment for Big Stone I, and that the analysis does not evaluate cost impacts in terms of pollution reduced. South Dakota did describe the range of control efficiencies possible for the various technically feasible control options in its BART determinations. While we acknowledge that South Dakota did not select the highest control efficiency option in every case (e.g., South Dakota selected semi-dry instead of wet flue gas desulfurization (FGD or "scrubber" controls) for SO₂ control), we find the State was reasonable in its selection of controls considering the five statutory factors and did not unreasonably reject any control options based on cost as further explained in our responses to other comments in this action.

B. Comments on the Big Stone I SO₂ BART Determination

Comment: Two commenters stated that the SO₂ emission limit for Big Stone I is too high as a result of the baseline emission rate used in the analysis. The commenters stated that Otter Tail Power Company, the operator of Big Stone, and the State both incorrectly assumed an uncontrolled SO₂ emission rate of 0.86 lb/MMBtu for the Big Stone I BART determination. Otter Tail claimed this rate was the highest 24-hour average rate of SO₂ emitted by Big Stone I during 2001-2003. While the BART Guidelines² require use of the highest daily emissions in the visibility modeling analysis, that is not an appropriate starting point for setting a BART emission limit. The Sierra Club believed that this rate should have instead been based on the highest 30-day average uncontrolled SO₂ emission rate, because BART emission limits apply on a 30-day average basis. The Sierra Club recommended a baseline emission rate of 0.70 lb/MMBtu, which is the maximum annual average SO₂ emission rate at Big Stone I over the last ten years,

² 40 CFR part 51, appendix Y.

according to EPA's Clean Air Markets Database (CAMD), or at the very least recommends the highest 30-day average uncontrolled SO₂ emission rate.

The NPCA stated that it is unclear where the 0.86 lb/MMBtu baseline originates. The NPCA stated that the highest 30-day rolling period for SO₂ during the baseline period (2001-2003) was 0.82 lbs/MMBtu, and that no monthly value was higher than 0.81 lbs/MMBtu through 2010.

The NPCA also noted that the baseline assumes 85% operations, while the baseline period operations averaged 91%, and averaged 92% from 2003-2010.³

Response: The BART Guidelines describe the process for calculating the average cost effectiveness of a control strategy.⁴ As part of this calculation, baseline annual emissions must be calculated, and section IV.D.4.c of the BART Guidelines describes the calculation of baseline emissions. The BART Guidelines state,

“1. The baseline emissions rate should represent a realistic depiction of anticipated annual emissions for the source. In general, for the existing sources subject to BART, you will estimate the anticipated annual emissions based upon actual emissions from a baseline period.

2. When you project that future operating parameters (*e.g.*, limited hours of operation materials or product mix or type) will differ from past practice, and if this projection has a deciding effect in the BART determination, then you must make these parameters or assumptions into enforceable limitations. In the absence of enforceable limitations, you calculate baseline emissions based upon continuation of past practice.”⁵ .

³ The commenter cited EPA's CAMD for hours of operation at Big Stone I.

⁴ 40 CFR part 51, appendix Y, section IV.D.4.c.

⁵ 40 CFR part 51, appendix Y, section IV.D.4.d.

States have some flexibility in determining baseline emissions but should develop a “realistic depiction of anticipated annual emissions.” While the use of the highest 24-hour emission rate to estimate annual emissions would not likely result in a realistic estimate of annual emissions, had the State relied on the highest 30-day rolling average value, it is unlikely that it would have arrived at a different conclusion regarding BART. First, the baseline emissions that the State relied on in its calculation of average cost result in lower estimates of average cost than would have resulted from using the approach suggest by the commenter. In addition, the primary basis for the State’s BART determination was the visibility benefits that were based on the 24-hour maximum emissions rates. Moreover, BART emission limits, which apply at all times, including during startup and shutdown must allow an adequate margin for compliance.

In addition, the State assumed baseline emissions of 18,000 tons per year for its BART analysis. By contrast, emissions data in CAMD shows that the emissions between 2001 and 2003 were 12,540 tons per year. Therefore, we find the State did not underestimate the baseline emissions in its BART analysis.

Based on our review of all the information, we find that South Dakota acted reasonably in establishing the SO₂ BART emission limit for Big Stone.

Comment: One commenter stated that the South Dakota Department of Environment and Natural Resources (DENR) incorrectly assumed 95% SO₂ control efficiency for wet FGD, which can actually achieve as high as 99% control efficiency. The commenter gave several examples of wet scrubbers that have achieved up to 99% removal efficiency, and included cost estimates for certain technologies to argue that the costs for some of these systems “are well within the range EPA normally considers cost effective” in best available control technology (BACT)

analyses. In its evaluation of a wet scrubber for BART, the Big Stone I BART Analysis should have evaluated these levels of control.

The commenter also stated that the State incorrectly assumed 90% SO₂ control with a dry scrubber at Big Stone I, and therefore, proposed an emission limit of 0.09 lb/MMBtu which was too high. Using the Sierra Club's previously proposed baseline emission rate of 0.70 lb/MMBtu, the BART emission limit with a 90% efficient dry scrubber should be 0.07 lb/MMBtu at most. Additionally, other facilities are currently subject to higher removal efficiency requirements (up to 95%) with dry scrubbers, and corresponding lower SO₂ BACT limits than the 0.09 lb/MMBtu proposed by the State. Another commenter stated that more accurate reflections of the maximum capabilities of wet and dry scrubbers would cut remaining emissions significantly (75% and 50%, respectively), and requests that EPA adjust the final emission limits appropriately. This commenter also quoted the BART Guidelines; "the list [of available technologies] is complete if it includes the maximum level of control each technology is capable of achieving."

Response: We agree that, in some cases, wet and dry scrubbers can achieve greater emission reductions than those assumed by South Dakota. However, when the sulfur content of the coal is low, a lower control efficiency is anticipated. Due to the very low sulfur content of the coal burned at Big Stone I, on average 0.57%, it is unlikely that the high control efficiencies cited by the commenter could be achieved.⁶ South Dakota also provided explanatory information in its response to comments in Appendix E of the SIP that it considered SO₂ inlet concentrations in its estimation of possible control efficiencies. In addition, BART emission limits, which apply at all times, including during startup and shutdown must allow an adequate margin for compliance.

⁶ Cost and Quality of Fuels for Electric Utility Plants, 1999 Tables, DOE/EIA-091(99), June 2000, Table 21.

Therefore, with regard to the proposed emission limits for dry scrubbers at Big Stone I, we find that South Dakota's limit of 0.09 lb/MMBtu is reasonable for dry scrubbers at the facility, and we are approving it.

Comment: One commenter stated that the choice of semi-dry FGD over wet FGD was largely based on modeling results about which EPA noted; "It is not clear why the model predicted this result; it may relate to stack parameters." 76 FR 76656. The commenter stated that EPA should not rely on "unreliable, unexplained, or not logical" modeling results.

Response: We disagree that the model results, upon which the State and EPA relied for this action, are "unreliable, unexplained, or not logical." The CALPUFF modeling protocol used for the South Dakota Regional Haze SIP conforms to the BART Guidelines, and we received no information to the contrary aside from the general comment directly above. We also note that the stack parameters used in the model differ for the two options. Wet FGD results in a cooler plume with less velocity and thermal buoyancy than dry FGD. This is likely to have affected the model predictions.

Comment: One commenter stated that South Dakota's cost effectiveness calculation of a wet scrubber, \$1,699/ton at an SO₂ emission rate of 0.043 lb/MMBtu, is reasonable when compared to other BART determinations at similar facilities.⁷ South Dakota, therefore, lacks justification to discount installation of a wet scrubber based on costs.

Response: Neither EPA nor South Dakota discounted the installation of a wet scrubber based on costs. As stated in the proposal, "the State deemed the average cost effectiveness reasonable for the two remaining control options, semi-dry and wet FGD." 76 FR 76656.

⁷ Commenter referenced an NPS spreadsheet with cost information on BART determinations.

Comment: One commenter noted Otter Tail's BART submittal based its costs on the CUE Cost model rather than EPA's Control Cost Manual, which contradicts the BART Guidelines and makes comparison with other cost effectiveness values difficult.

Response: As we commented to South Dakota previously,⁸ while we are satisfied with the BART conclusions, in general we do not recommend relying on the CUE Cost model. We agree with the commenter that according to the BART Guidelines, in order to maintain and improve consistency, cost estimates should be based on the Control Cost Manual. Since South Dakota determined all control options in its BART analysis were cost effective, and it relied primarily on visibility benefits in its final BART determinations, the use of the CUE Cost model did not affect the final result.

Comment: One commenter stated that DENR and Otter Tail failed to adequately evaluate the environmental benefits of a wet scrubber as opposed to a dry scrubber. First, because wet scrubbers are much more efficient at controlling SO₂, they will be needed to work in conjunction with likely "mandated" future carbon dioxide (CO₂) emission controls, which require SO₂ removal efficiency at 98-99%. Second, wet scrubbers are much more effective than dry scrubbers at controlling emissions of hydrogen chloride and hydrogen fluoride, and "provide significant removal of arsenic, beryllium, cadmium, chromium, lead, manganese, and mercury from flue gas."⁹ Third, decreases in SO₂ emissions translate to lower PM_{2.5} concentrations because of the decrease in sulfate formation. Decrease in sulfate can also prevent damage to certain water bodies and wetlands. Another commenter also stated that EPA did not adequately take into account the additional environmental benefits from use of a wet scrubber and the low

⁸ March 12, 2010 letter from EPA Region 8, Callie Videtich to DENR, Brian Gustafson, re: EPA Region 8 Comments on January 15, 2010 Draft Regional Haze SIP (FLM Consultation Version).

⁹ Commenter cited <http://www.icac.com/i4a/pages/index.cfm?pageid=3401> for quote.

energy use associated with some newer models, and asks EPA to revisit this aspect of the technology section.

Response: We took into account the State's consideration of environmental impacts when reviewing the Big Stone I SO₂ BART determination, as required by the BART Guidelines and evidenced in our proposal. 76 FR 76656. The CAA requires consideration of energy and non-air quality environmental impacts; the commenter's concerns relate primarily to air quality issues. The State did identify non-air quality environmental impacts in Section 6 of the SIP. South Dakota noted that the dry scrubber would be installed upstream of the existing baghouse, resulting in some negligible additional material being collected in the baghouse. In addition, the energy issue raised by the commenter related to wet versus dry scrubbing is addressed in the SIP in Table 6-8 where the State notes that the wet scrubber control option uses more energy than the dry scrubber option, 9,500 kW versus 3,325 kW. We also note that Sierra Club's suggestion of future mandates for CO₂ emission controls is speculative and that it is premature for us to consider in this action. Accordingly, our consideration of environmental impacts was sufficient.

C. Comments on the Big Stone I NO_x BART Determination

Comment: One commenter stated that it is unclear where the baseline rate of 0.86 lbs/MMBtu for NO_x originated, because the thirty-day rolling values for NO_x only reached 0.85 lbs/MMBtu during the baseline period. The commenter noted that the thirty-day rolling values for NO_x have been at or below 0.71 lbs/MMBtu since 2007 because of the installation of overfire air. The commenter asserted that 0.71 lbs/MMBtu should therefore be the starting point for additional NO_x reductions from SCR. The commenter also noted that the baseline assumes 85% operations, while the baseline period operations averaged 91%, and averaged 92% from 2003-2010.¹⁰

¹⁰ Commenter cited EPA's CAMD for hours of operation at Big Stone I.

Response: See our previous response in this action related to the SO₂ emission rate as it relates to baseline emissions. Regarding the commenter's concern related to the hours of operation assumed in the baseline, we note that the State's approach considerably overestimates the baseline emissions. The State assumed baseline emissions of 18,000 tons per year for its BART analysis. By contrast, emissions data in CAMD shows that the emissions between 2001 and 2003 were 15,780 tons per year. Therefore, we find the State did not underestimate the baseline emissions in its BART analysis.

Comment: One commenter stated that the NO_x BART analysis at Big Stone I is flawed because it fails to consider the level of control available with SCR, resulting in an inflated NO_x emission limit. DENR's proposed NO_x emission rate of 0.10 lb/MMBtu reflects 85.9% NO_x control with the installation of SCR based on emission data showing that the highest monthly emission rate of NO_x in 2009 was 0.71 lb/MMBtu. SCR systems can achieve 90%+ NO_x reductions, meaning an emission limit of .071 lb/MMBtu is more reflective of SCR capabilities. The commenter also cited recent SCR retrofits which have resulted in emission rates lower than 0.05 lb/MMBtu being achieved.

Response: Because the control efficiency of SCR is dependent on the NO_x inlet concentration, it is more appropriate to assess the control effectiveness of SCR relative to the performance rate. Although we acknowledge that other SCR retrofits have resulted in lower NO_x emission levels than 0.10 lb/MMBtu, we find that South Dakota's limit is reasonable using SCR plus separated overfire air at Big Stone I. This is particularly true in light of the need to establish an adequate margin of compliance for BART limits that must apply at all times including startup and shutdown.

D. Comments on Big Stone I PM BART Determination

Comment: One commenter stated that DENR's proposed particulate matter (PM) BART emission limit of 0.012 lb/MMBtu is not reflective of the limits achievable by fabric filter baghouses, and is inconsistent with some lower PM limits required as BACT. The commenter cited a permit for a plant in Atlanta, Plant Washington, with a PM limit of 0.010 lb/MMBtu to argue that Big Stone's PM emission limit should be no higher than this level.

Response: As noted in the proposal, the 0.012 lb/MMBtu PM emission limit "represents a stringent level of control that is consistent with recent Best Available Control Technology determinations for PSD [prevention of significant deterioration] permits." 76 FR 76659. Also, performance test data for the baghouse indicates that the actual emission rate is 0.011 lb/MMBtu. Therefore, we find the emission limit set by South Dakota is commensurate with the actual performance of the control device. Moreover, there is no indication that a more stringent level of control would lead to meaningful visibility benefits.

Comment: One commenter asserted that DENR should require a PM continuous emission monitoring system (CEMS) rather than the currently proposed annual stack test to ensure continuous compliance with BART limits. If not CEMS, commenter alternatively requested that DENR impose a 10% opacity limit "reflective of BART," noting that this would ensure continuous compliance with the BART limit and that Big Stone already has continuous opacity monitoring. Commenter noted that other coal plants' permits include opacity limits of 10% or less.

Response: PM CEMS provides the most robust means of demonstrating continuous compliance with the PM emission limits. However, we disagree that their use is required in this case. We find that the monitoring requirements in the South Dakota Regional Haze SIP are adequate to demonstrate continuous compliance with the PM emission limits. South Dakota noted in

response to similar comments it received during its public comment period that the State has the authority to require CEMS as well as a 10% opacity limit, but that based on its case-by-case analysis of the facility it believed an annual stack test was adequate to meet the regional haze requirements. We agree with the State.

Comment: One commenter stated that the PM BART limit at Big Stone should be required now because the baghouse has already been installed.

Response: Normally, we would agree that the PM BART limit should apply as expeditiously as practical. In this case, South Dakota noted in its response to a similar comment in Appendix E of the SIP that since a dry FGD system must be located upstream of the particulate control device, that demonstrating compliance with the SO₂ BART limit affects the compliance demonstration for PM. The commenter does not provide any explanation to refute South Dakota's response. We find South Dakota's compliance timeframe is reasonable as noted in Section 6.4 of the SIP for installation and operation of BART as expeditiously as practical, but no later than five years from EPA's approval of the South Dakota Regional Haze Program.

E. Startup, Shutdown and Enforceability Comments

Comment: One commenter stated that DENR should not exempt Big Stone from BART emission limits during startup and shutdown. First, BART emission limits must be met on a continuous basis pursuant to CAA section 302(k). Second, startup and shutdown are part of normal operations at facilities like Big Stone, and because these emissions impact visibility and regional haze, "DENR's proposed BART limits must include periods of startup and shutdown." Third, permitting authorities have required as stringent and more stringent BACT limits at coal-fired boilers without allowing exemptions for startup and shutdown. Further, the commenter stated that Otter Tail did not request exemptions from emission limits for startup and shutdown

related to a new facility, Big Stone II, for which it was seeking a permit during a 2008 contested case hearing.

Response: As stated in the proposal, all the BART limits (based on lb/MMBtu, 30-day rolling average) specified in the South Dakota Regional Haze SIP apply at all times, including periods of startup, shutdown and malfunction. The lb/MMBtu limits are more restrictive than the lb/hr limits that are also specified in the SIP, and therefore, as a practical matter, the lb/MMBtu limits take precedence.

Comment: One commenter stated that DENR's proposed regulation to make the BART requirements from the Regional Haze SIP enforceable (74:36:21:06-09) fails to specify that Big Stone is subject to the regulation's emission limits. The regulation must specify the source that is subject to the BART emission limits to ensure that those limits are enforceable.

Response: We disagree. Though somewhat unique in its omission of the facility name, we find that the State's regulation provides adequate detail to ensure its applicability and enforceability related to Big Stone I. We are deferring to the State's constitution and legislative process that favors general laws over special, unit-specific laws. We are basing our approval of South Dakota's Regional Haze SIP on the conclusion that the regulation does cover Big Stone I.

F. Modeling Comments

Comment: One commenter stated that both the cumulative visibility impact of a source's emissions and the cumulative benefit of emission reductions are necessary considerations as part of the fifth step in a BART analysis. The commenter stated that this is particularly important for sources in South Dakota because emissions from these sources cause or contribute to visibility impairment at multiple Class I areas. The commenter supported an argument from an NPS comment letter which states:

“It simply does not make sense to use the same metric to evaluate the effects of reducing emissions from a BART source that impacts only the one Class I area as for a BART source that impacts multiple Class I areas.”¹¹

The commenter provided examples of instances in which consideration of cumulative visibility benefits influenced BART decisions, one being EPA Region 6’s FIP for the San Juan Generating Station in New Mexico. The commenter also stated that FLMs rely on cumulative assessments of visibility impacts and benefits to determine the levels of emission controls that are cost-effective and technically feasible. Additionally, the commenter stated that cumulative impact assessments also provide more accurate depictions of costs on a dollars per deciview basis, which is a useful supplement to the \$/ton calculation used in BART determinations.

Response: The BART Guidelines list the dollars per deciview ratio as an additional cost effectiveness metric that can be employed along with \$/ton for use in a BART evaluation. However, EPA does not have guidelines on how the dollars per deciview metric is to be used. South Dakota did include a dollars per deciview metric across multiple Class I areas in its evaluation of BART controls based on the combinations of controls for which Otter Tail conducted visibility modeling.¹² The dollars per deciview analysis indicated the control options that reduced visibility impacts to acceptable levels had comparable dollars per deciview results, within approximately 10 percent of each other.

While we agree with the commenter that the cumulative visibility impact across multiple Class I areas is a useful metric that can further inform the BART determination, states can choose how they compile this information. We find that South Dakota’s evaluation of visibility

¹¹ NPS comments on Salt River Project’s proposed determination for Navajo Generating Station, July 24, 2009, according to commenter.

¹² See SIP Table 6-15.

impacts is consistent with the BART guidelines and a sufficient basis for choosing control options.

G. GCC Dacotah Cement Comments

Comment: Several commenters stated that technical feasibility was not the basis for South Dakota's decision to eliminate SNCR in its 2003 NO_x BACT determination for GCC Dacotah Kiln #6. Commenters pointed to the "Statement of Basis" in support of GCC Dacotah's 2003 PSD permit, in which DENR considered SNCR to be technically feasible for Kiln #6, but rejected SNCR as BACT due to concerns about accidental release of ammonia and ammonia slip. The NPS provided excerpts from its comments on the 2003 PSD permit in support of the NPS's comments on this action.

Response: We are not basing our final approval of South Dakota's regional haze SIP with regard to GCC Dacotah Kiln #6 on the basis of any general statements about technical feasibility of SNCR. We are basing it in part on analysis and information from South Dakota's 2003 BACT determination, which South Dakota relied on in regard to Kiln #6, and information subsequently provided by South Dakota. In order to clarify the situation and to respond to other comments on Kiln #6, we provide additional detail on the 2003 PSD permit. We explain in response to other comments our assessment of South Dakota's reliance on the 2003 BACT determination for Kiln #6.

On June 23, 1994, Dacotah Cement (the previous owner and operator of the facility) submitted an application to South Dakota DENR for a modification to Kiln #6.¹³ Based on information in the application, South Dakota agreed that the modification was not major under the PSD program, and the modification was completed. However, South Dakota later

¹³ South Dakota DENR, Statement of Basis, PSD Preconstruction Permit ("2003 PSD Permit SOB"), p. 1 (Apr. 10, 2003). The 2003 permit files are available in the docket for this action.

determined that, based on the result of subsequent stack tests, the modification should have triggered PSD review. South Dakota entered into a settlement agreement with Dacotah Cement. GCC Dacotah purchased the facility and submitted applications for PSD permits for PM, NO_x, and carbon monoxide.

In its permit application, GCC Dacotah presented a five-step BACT analysis for NO_x controls for Kiln #6. In the first step, GCC Dacotah presented SNCR as an available technology, and, in the second step, did not eliminate SNCR (standing alone) as technically infeasible. Among other control options, the company also presented staged combustion, in the form of an inline, low-NO_x calciner with riser duct firing, and low NO_x burners (LNBS) with indirect firing, as available and feasible. However, in considering combinations of control technologies, GCC Dacotah stated that SNCR was technically infeasible in combination with the proposed staged combustion system, for reasons including requirements for an injection location with temperatures between 1600°F and 2000°F. The company stated that, due to these reasons, use of SNCR with the proposed staged combustion system would have a high probability of ammonia slip and resulting detached plume.

In its statement of basis for the draft permit, South Dakota likewise presented SNCR, standing alone, as an available and technically feasible option for Kiln #6. However, South Dakota stated that accidental release of ammonia during handling and storage was an environmental risk. South Dakota also stated that ammonia slip could result in increased PM₁₀ and PM_{2.5} emissions, South Dakota viewed this as a concern in Rapid City. Based on these reasons, South Dakota stated “SNCR is not considered an appropriate control device for [NO_x] in Rapid City.”¹⁴

¹⁴ Id., pp. 23-24.

In the statement of basis for the draft permit, South Dakota also considered staged combustion as an option. GCC Dacotah proposed a staged combustion system with a small pre-calciner, with a cost-effectiveness of \$3,888 per ton of NO_x removed. GCC Dacotah initially did not provide costs for a large pre-calciner. South Dakota agreed with the cost-effectiveness for the small pre-calciner. South Dakota also stated that the large pre-calciner would not be economically or physically feasible, as the existing support structure and equipment location would not accommodate it. Based on review of the RACT/BACT/LAER Clearinghouse (RBLC), South Dakota proposed as BACT the controls presented by GCC Dacotah, including the staged combustion system with the small pre-calciner.

As noted by the NPS in its comments on this action, the NPS provided comments on the draft PSD permit, including the rejection of SNCR for Kiln #6. The NPS argued that South Dakota should reconsider its decision to eliminate SNCR, in light of the requirement for SNCR in a permit for a cement kiln at Continental Cement in Missouri. The NPS also argued that the cost-effectiveness of a large pre-calciner should be assessed in order to determine whether it might be BACT.

In response to the NPS comments, South Dakota reiterated its concerns with accidental release of ammonia and ammonia slip. In addition, South Dakota noted that the permit for the Continental Cement kiln required the replacement of an existing kiln, thereby reducing NO_x and avoiding PSD review. South Dakota also noted that the NO_x emissions limit of 8 lbs/ton of clinker for the Continental Cement kiln was higher than the emissions limit for GCC Dacotah Kiln #6 established in the PSD permit. Finally, based on a cost analysis South Dakota requested from GCC Dacotah, South Dakota stated that the cost-effectiveness of the large pre-calciner would be \$5,100 per ton of NO_x removed, which South Dakota considered excessive. South

Dakota, therefore, finalized its determination that staged combustion with the small pre-calciner was BACT for Kiln #6.

On October 11, 2011, South Dakota provided the email included in the docket in response to our questions regarding the 2003 BACT determination and why SNCR was eliminated. The email stated that, in 2003, South Dakota determined that SNCR was not technically feasible for use with the controls (including the small pre-calciner) selected as BACT for Kiln #6. (The email did not state that SNCR standing alone had been considered technically infeasible.) South Dakota explained that it had determined that the small pre-calciner lacked an appropriate location for use of SNCR, and that use of it in the small pre-calciner would cause ammonia slip. South Dakota stated that the large pre-calciner “may” have had an appropriate location for use of SNCR; the State also noted, however, that the large pre-calciner had been considered to have excessive costs.

We reiterate that we are basing our final action on information and analyses in the 2003 BACT determination, together with emissions data provided by South Dakota and South Dakota’s statements that, at this facility, site-specific considerations prevent the effective use of SNCR in Kiln #6 without significant process modifications. We are not basing our final action on any general statement on technical feasibility of SNCR. We provide this response in order to clarify the record.

Comment: The NPS disagreed with “EPA’s and DENR’s reliance on a 2003... PSD permit review for Dacotah Cement Kiln #6 to determine that post-combustion controls were not technically feasible.” First, the NPS stated that it is inconsistent for DENR, in analyzing the Pete Lien and Sons lime plant, to review the RBLC to determine whether more stringent post-combustion controls had been permitted since a 2008 PSD decision on that facility, and not

review more recent permit requirements after the 2003 PSD decision for Kiln #6. Second, the two commenters questioned EPA's statement that the 2003 BACT determination for Dacotah's PSD permit is "recent." Finally, the NPS cited EPA's BART Guidelines which state "all technologies should be considered if available before the close of the State's public comment period." The NPS stated, and provided documentation in support of its statement, that SNCR application to preheater/precalciner kilns such as Dacotah's Kiln #6 has evolved from "questionable" to "well established" from the 2003 BACT determination and the close of the State's first Regional Haze SIP public comment period in 2010.

Response: As discussed elsewhere, we are not basing our final action on whether SNCR is available or technically feasible for Kiln #6. We are basing our final action on information and analyses in the 2003 BACT determination, together with South Dakota's statements that, at this facility, site-specific considerations prevent the effective use of SNCR in Kiln #6 without significant process modifications. These site-specific considerations have not changed since 2003, and subsequent developments regarding applicability of SNCR to other preheater/precalciner kilns also do not change this.

With regard to South Dakota's four-factor review of Pete Lien and Sons, it appears that the State's review of the RBLC was not the sole basis for the State's decision. The State also modeled baseline visibility impacts of the facility (as it did for GCC Dacotah Kilns #4 and #5 and Ben French). The modeling showed impacts from 0.05 to 0.07 deciviews at Badlands and Wind Cave National Parks. In any case, under the BART guidelines (if used for reasonable progress (RP) determinations), review of the RBLC would be recommended to identify available technologies. As discussed above, in the 2003 PSD permit, the State treated SNCR, standing alone, as available and technically feasible for GCC Dacotah Kiln #6, and did not eliminate

SNCR as unavailable based on its review of the RBLC at that time. A present-day review of the RBLC would not change this. Thus, South Dakota's use of the RBLC in analyzing the Pete Lien and Sons facility does not give any basis for us to change our proposed approval. Similarly, because South Dakota treated SNCR as available in the 2003 BACT determination, the comments relating to the BART guidelines on determining availability and to subsequent application of SNCR to preheater/precalciner kilns do not give us any basis to change our proposed approval.

Comment: Two commenters disagreed with the statement in EPA's proposed action that "In issuing the PSD permit in 2003... South Dakota found that SNCR was not technically feasible for Kiln 6." Further, these commenters stated that the concerns about ammonia slip are predictable and solvable in this context, and that there is no reason to believe that the accidental release of ammonia slip would be any more of a problem at GCC Dacotah than at the numerous other facilities cited by the commenter successfully using ammonia in the operation of SNCR and SCR. Ammonia slip is typically managed by system design and operating parameters, and it likely should have been applied in the 2003 BACT determination, and there is no reason to delay analysis of SNCR and other feasible technologies until 2018. One commenter stated that the failure to require adequate emission controls lacks legal justification.

Response: We disagree with the comments to the extent that they conclude that we must disapprove the South Dakota Regional Haze SIP with respect to GCC Dacotah Kiln #6. As detailed above, in its 2002 PSD permit application, GCC Dacotah presented SNCR both as a stand-alone control option and in combination with the staged combustion system, including the small pre-calciner. While the State's basis for rejecting SNCR, *standing alone*, in 2003 may have been solely concerns with accidental release of ammonia and ammonia slip, the information

and analyses in the 2003 BACT determination with regard to SNCR *in combination with* the staged combustion system provide a sufficient basis, viewed today, so that we are not prepared to find that South Dakota was unreasonable in relying on the 2003 BACT determination when considering Kiln #6. In evaluating SNCR now, it must be considered as applied to the existing design, i.e., a staged combustion system, including the small pre-calciner.

As represented by South Dakota in its October 11, 2011 email, at this facility site-specific considerations prevent the effective use of SNCR in Kiln #6 without significant process modifications.¹⁵ Among the considerations presented by the State is a requirement for a location with temperatures from 1600° to 2000°.¹⁶ South Dakota states that the existing design, including the staged combustion system with the small pre-calciner, does not provide an adequate location for use of SNCR. South Dakota also states that the same system, but with a large pre-calciner, “may have had an appropriate location.” The State notes (as we have mentioned above) that a staged combustion system with a large pre-calciner was rejected in 2003 as BACT due to excessive costs.

Based on the above statements regarding appropriate locations for SNCR, emissions data provided by DENR, and the limited information and analyses in the 2003 BACT determination, we note the following.¹⁷ First, based on the emissions data provided by South Dakota, the existing controls, including the staged combustion system with the small pre-calciner, achieve approximately 44% reduction of NO_x emissions. Second, based on GCC Dacotah’s estimated costs in 2003 for a large pre-calciner, the cost-effectiveness of replacing the small pre-calciner

¹⁵ We note that these considerations were also presented in the 2002 GCC Dacotah PSD permit application, in the portion discussing SNCR in combination with the staged combustion system, including the small pre-calciner.

¹⁶ See also US EPA, Alternative Control Techniques Document Update –NO_x Emissions from New Cement Kilns, EPA-453/R-07-006, Fig. 8-1 (Nov. 2007). Note that, based on this figure, at 1400°F, NO_x reduction efficiency is at most 10%.

¹⁷ The details of these calculations are provided in a memorandum in the docket.

with a large pre-calciner alone would be (in 2011 dollars) \$6,164 per ton of NO_x removed, not including the costs of removing the small pre-calciner and associated equipment. Based on the emissions data, the incremental cost-effectiveness, as compared with the existing controls, would be (in 2011 dollars) \$280,246 per ton of NO_x removed. Third, based on the above statements by South Dakota regarding appropriate locations for SNCR, the cost effectiveness of replacing the existing small pre-calciner with a large pre-calciner and installing SNCR would be (in 2011 dollars) \$4,348 per ton of NO_x removed, again not including the costs of removing the small pre-calciner and associated equipment. Again, based on the emissions data, the incremental cost-effectiveness, as compared with the existing controls, would be (in 2011 dollars) \$20,160 per ton of NO_x removed. The cost estimates for SNCR are conservative, as we use a control efficiency of 50%. Given these costs, we are not prepared to find that South Dakota was unreasonable in relying on the 2003 BACT determination and not requiring additional NO_x controls for Kiln #6.

On the comment that a failure to require adequate emission controls lacks legal justification, other than issues we have responded to elsewhere, the commenter did not provide sufficient detail of any deficiency in our action.

Comment: The NPS stated that SNCR is a feasible option for cement kilns. The NPS cited the BART Guidelines explanations of “available” and “applicable” technology, a report by the Portland Cement Association, as well as other EPA documents to argue that SNCR has become routinely applied to preheater/precalciner cement kilns since South Dakota’s 2003 BACT determination. The NPS also stated that it found three entries for Portland cement plants in the RBLC, all of which were preheater/precalciners and all of which included SNCR to reduce NO_x to approximately half the rate allowed by DENR.

Response: As discussed above, at the time of the 2003 BACT determination, South Dakota considered SNCR as an available and feasible technology for GCC Dacotah Kiln #6. However, given the current configuration of Kiln #6, South Dakota's position (as discussed above) is that site-specific considerations prevent the effective use of SNCR in Kiln #6 without significant process modifications. The citation to the RBLC and the other documents does not convince us that SNCR is routinely applied to existing preheater/precalciner kilns, regardless of site-specific consideration such as the current design. Thus, the comments do not give us any basis to find that the State was unreasonable in relying on the 2003 BACT determination for Kiln #6.

Comment: In reference to EPA's proposed action, which states "South Dakota declined to conduct a four-factor analysis for GCC Dacotah Kiln 6," The NPS asserted that a state cannot simply decline without good reason and an explanation for the public record. The NPS stated that DENR's email to EPA Region 8 does not satisfy the BART Guidelines, which state, "if you disagree with public comments asserting that the technology is available, you should provide an explanation for the public record as to the basis for your conclusion." The NPS does not believe this portion of the BART Guidelines is satisfied "because it was not made part of DENR's public record and appears to simply be a re-statement of DENR's outdated 2003 BACT determination."

Response: We disagree. We noted in our proposal that the State relied on the 2003 BACT determination instead of conducting a four-factor analysis for Kiln #6. We discuss the State's response to comments on SNCR for Kiln #6 elsewhere.

There are two critical principles expressed in our BART guidelines that are equally relevant to an RP determination. First, as part of a BART analysis, technically infeasible control options are eliminated from further review. For BART, EPA's criteria for determining whether a control option is technically infeasible are substantially the same as the criteria used for

determining technical infeasibility in the BACT context. 70 FR 39165; EPA's "New Source Review Workshop Manual," pages B.17-B.22. Second, states may often be able to rely on a recent BACT determination for a source for purposes of determining BART for that source, unless new technologies have become available or best control levels for recent retrofits have become more stringent. As a general rule, the selection of a recent BACT level as BART is the equivalent of selecting the most stringent level of control, and consideration of the five statutory BART factors becomes unnecessary. Given the overlap of the four statutory RP factors with the five statutory BART factors, we think the same principle applies to RP determinations.

Furthermore, as discussed in more detail elsewhere, in this case it is not just the selection of BACT in the 2003 PSD permit proceeding that the State relies on, it is specific information from that BACT determination that is relevant to application of SNCR to Kiln #6 as it exists now. Independently of the selection of BACT in 2003, that information (as explained elsewhere) and South Dakota's statements regarding site-specific considerations sufficiently explain the State's action so that EPA is not prepared to determine that South Dakota was unreasonable.

Comment: The NPCA stated that SNCR "likely should have" been determined to be BACT in the 2003 PSD permit proceeding.

Response: The NPCA does not identify any flaw in the 2003 BACT determination, and none in particular in the information and analyses in that determination on which we rely. Thus, the comment does not give us any basis to change our proposed action.

Comment: The NPCA stated that, should the proposed rate of progress continue, South Dakota's reasonable progress goals (RPGs) for natural visibility at Wind Cave and Badlands national parks are, respectively, 172 years and 201 years after the target date of 2064. The NPCA stated that the uniform rate of progress (URP) will "egregiously" not be met, and that the

State must therefore analyze and require RP for BART and non-BART sources alike based on the statutory factors. EPA is also required to evaluate the State's RPGs based on the four statutory factors.¹⁸ The NPS cited EPA Region 8's proposed rulemaking for North Dakota's Regional Haze SIP to reiterate that South Dakota must demonstrate why its RPGs and rejection of RP controls are reasonable.¹⁹ The NPCA, therefore, stated that South Dakota and EPA erroneously declined to analyze and require controls for GCC Dacotah, which qualifies as "any potentially affected source" and "contributes significantly to visibility impairment at its Class I areas."²⁰

Response: With respect to BART sources, generally a source-specific BART determination is equivalent to a source-specific RP determination. As we are approving South Dakota's BART determination for Big Stone, RP requirements for that source are satisfied. With respect to the RP sources, and GCC Dacotah Kilns #4 and #5 in particular, we find South Dakota's RP determinations reasonable. We also explain above the specific information and analyses in the 2003 BACT determination for Kiln #6 that sufficiently support South Dakota's action so we are not prepared to find it unreasonable. The commenters did not identify any deficiencies in South Dakota's RP determinations for other potentially affected sources, or (aside from comments specifically on GCC Dacotah) in the reasons given in our proposal for why South Dakota's RPGs were reasonable. The comments therefore give no basis for us to change our proposed action.

¹⁸ 40 CFR 51.308(d)(1)(iii).

¹⁹ 76 FR 183. "Because the reasonable progress goals fall short of the uniform rate of progress, North Dakota must demonstrate that its reasonable progress goals and rejection of reasonable progress controls is reasonable, based on the four factors. 40 CFR 51.308(d)(1)(ii)."

²⁰ Commenter's repeated claim that visibility impacts from Kiln #6 are "significant" appears to have been extrapolated by a comparison of the combined impacts from Kilns #4 and #5.

Comment: The NPS stated that, if Q/D^{21} were calculated for GCC Dacotah's Kiln #6, its value of 48 would be double that of the next highest evaluated source (Ben French power plant), and more than double the combined value of GCC Dacotah's Kilns #4 and 5. The NPS therefore believed that Kiln #6 is the most significant of the sources that should have been evaluated under the RP provisions of the Regional Haze Rule.

Response: For reasons explained elsewhere, we are not prepared to find that South Dakota was unreasonable in relying on the 2003 BACT determination to meet the requirements of the Regional Haze rule with respect to GCC Dacotah Kiln #6. This is true regardless of the value of Q/D for Kiln #6 alone.

Comment: The NPS stated that it is incorrect for EPA to conclude that the visibility benefits from GCC Dacotah would be small. Because Kiln #6 wasn't modeled, the NPS noted it is inappropriate to conclude that the modeled benefits are small because the analysis of those benefits (including specifically the benefits of adding SNCR to Kiln #6) is incomplete. The NPS further stated that it is reasonable to conclude that, if emissions from Kiln #6 were modeled, they might show that Kiln #6 is a significant contributor to visibility impairment. For this reason, the commenter stated that EPA is incorrect in stating that South Dakota based its determination for Kiln #6 on visibility benefits rather than on a four factor analysis.

Response: We agree that the State did not provide visibility modeling, either of baseline impacts or of benefits, for Kiln #6, and did not base its decision regarding Kiln #6 on visibility modeling. In assessing South Dakota's submittal, we did note that South Dakota modeled baseline impacts for Kilns #4 and #5 combined and relied on that data, and, in contrast, for Kiln #6 we noted

²¹ EPA calculated Q/D as follows: the total emissions ($SO_2 + NO_x$) in tons per year for a source divided by the source's distance in kilometers to the nearest Class I Federal area.

instead that South Dakota relied on the 2003 BACT determination. (See 76 FR 76665.) For the reasons discussed elsewhere, we are not prepared to find that reliance unreasonable.

Comment: The NPS stated that, in this action, EPA is considering any cost excessive because of its assumption that visibility benefits would be minimal. The NPS contrasted this action with EPA statements from other actions regarding cost effectiveness. The NPS stated that if EPA bases its decision that lack of visibility benefits trumps a four-factor analysis for a situation in which URP is far from being met, it should “conduct a valid modeling analysis to estimate the actual benefits on which it is basing its decision.” The NPS stated that this analysis should be related to the \$18 million per deciview average for NO_x control costs, which the NPS stated has become the “national norm.” The NPS referred to Colorado’s Holcim Cement plant, a potentially affected source for which Colorado is requiring SNCR for RP. The NPS argued that GCC Dacotah Cement’s total visibility impact would have been similar or greater than that of Holcim Cement in Colorado, had Kiln #6 been included in GCC Dacotah’s modeling. The NPS argued that GCC Dacotah Cement should not be given a competitive advantage over other cement facilities that are also subject to the Regional Haze program requirements.

Response: As a general matter, the Regional Haze rule does not impose uniform numeric standards, such as specific cost effectiveness or visibility benefit levels, that a State is required to use in determining whether a control should be imposed at a potentially affected source for RP. Instead, consistent with the CAA, the rule requires the State to consider certain factors in determining RP. If the State’s selected controls do not achieve the URP, the State is required to demonstrate that the State’s choice was reasonable and that it was unreasonable to meet the URP.

In our review of a state’s RP determination for a potentially affected source, it is our task to determine that the state reasonably considered the relevant factors. Thus, in approving South

Dakota's RP determination for Kilns #4 and #5, we are not stating a principle that EPA considers any cost excessive when the visibility benefits are minimal, or are below some threshold.

Instead, we are finding that the State considered the factors set out in the CAA and reached a result that we are not prepared to say is unreasonable. We also do not find it unreasonable for a state to rely on baseline visibility impacts to assess potential controls. While modeling of the reductions from controls could give a more precise measure of visibility benefits, baseline visibility impacts do bear a rational relation to visibility benefits. At a minimum, visibility benefits are bounded by baseline visibility impacts.

Furthermore, what is reasonable is subject to a certain amount of variation from state to state, from facility to facility, and from location to location.²² EPA, therefore, rejects the notion that the reasonableness of a state's RP determination should be assessed against a "national norm" based on dollars per deciview.

EPA also rejects the comparison of South Dakota's determination to not impose SNCR at Kiln #6 with Colorado's determination to impose SNCR at the Holcim Florence facility. The details show the facilities are not similar. In its RP determination for the Holcim Florence facility, Colorado noted that the existing design of the facility, in particular the preheater/precalciner vessels, provided locations with appropriate temperatures for injection of ammonia. Colorado therefore considered SNCR to be technically and economically feasible, and derived a cost effectiveness of \$2,293 per ton of NO_x removed for SNCR.²³ In contrast, South Dakota states that the existing design of Kiln #6 does not provide appropriate locations for use of

²² For example, in one notice cited by NPS, we stated that a cost effectiveness value was "well within the *range of values* we have considered reasonable for BART and that states other than North Dakota have considered cost effective." 76 FR 58570 (Sept. 21, 2011) (emphasis added).

²³ Colorado Regional Haze SIP, Appendix D, Reasonable Progress (RP) Four-Factor Analysis of Control Options for Holcim Portland Plant, Florence, Colorado, p. 16.

SNCR; in other words, that an effective installation of SNCR would require significant process modifications.

Comment: The NPS stated that DENR and EPA should explain why the cost estimates for SNCR at Kilns #4 and 5 were so much higher than average. Commenter also stated that DENR used EPA's Nov. 2007 "Alternative Control Techniques Document Update – NO_x Emissions from New Cement Kilns" to estimate the cost of an SNCR system, though this document was developed for the review of dry kilns and not a wet kiln.

Response: The State provided its explanation for its derivation of costs for SNCR.²⁴ In discussing its derivation of costs, South Dakota recognized that EPA's November 2007 document was developed for dry kilns. South Dakota stated that SNCR had only been used on wet kilns in Europe and recently on one wet kiln in the United States. Regardless, by any methodology, the cost-effectiveness of SNCR would likely be higher than that for LNB, while, based on estimates by the State on which the NPS did not comment, both SNCR and LNB would have the same control efficiency of 30 to 40%. As explained elsewhere, we are not prepared to find that South Dakota was unreasonable in relying on baseline visibility impacts for Kilns #4 and #5 in determining that LNB (or any other cost-effective controls) were not reasonable. Given that and the higher likely cost-effectiveness of SNCR for the same reductions as LNB, the reasons given in our responses for Kiln #6 apply with equal force to SNCR for Kilns #4 and #5.

Comment: The NPS stated that South Dakota rejected the results of the four-factor analyses which show additional controls are reasonable on GCC Dacotah Cement Kilns #4 and #5. The NPS asserted that EPA "should conduct a valid four-factor analysis (which includes an up-to-date review of SNCR) for all three kilns at GCC Dacotah Cement."

²⁴ South Dakota Regional Haze SIP, Table 7-2, p. 3.

Response: In this action, it is not EPA's task in the first instance to independently conduct its own analysis of the four statutory RP factors. As discussed above, it is EPA's task to review South Dakota's determination. With regard to GCC Dacotah Kiln #6, EPA is not prepared to find that South Dakota was unreasonable in relying on the 2003 BACT determination with regard to GCC Dacotah Kiln #6. With regard to Kilns #4 and #5, South Dakota considered the four statutory RP factors. South Dakota then considered the baseline visibility impacts of Kilns #4 and #5 combined and decided not to impose controls. EPA is not prepared to find that South Dakota was unreasonable in that decision.

Comment: The NPS stated that GCC Dacotah Kiln #6 should not be allowed to operate until 2018 and beyond "without current state-of-the-art emission controls, or even any evaluation of its emission controls, while it continues to affect visibility at Wind Cave and Badlands national parks."

Response: RP does not *per se* require use of the most current emission controls. As discussed elsewhere, various potential controls were evaluated in the State's 2003 BACT determination for Kiln #6. We, therefore, disagree with the statements to the extent that they argue we are compelled to disapprove the State's Regional Haze SIP with regard to GCC Dacotah Kiln #6.

Comment: The NPS stated that, on August 17, 2011, it commented to DENR that the RP analysis should evaluate controls for Kiln #6 and that the NPS believes now, as it did in commenting on the 2003 PSD permit, that SNCR is a feasible option for cement kilns. The NPS stated a response to this comment should have been made available in the DENR public records, and that DENR has not met the requirement of 40 CFR 51.308(i)(3) to "provide in its Regional Haze SIP a description of how it addressed any comments provided by the FLMs."

Response: To assess South Dakota's response to the NPS's comments, it is useful to discuss the history of the development of the South Dakota Regional Haze SIP. On January 15, 2010, the State provided a draft SIP to the FLMs for consultation. The NPS commented generally that the SIP was lacking four-factor analyses of potentially affected sources for RP. The EPA also made specific suggestions regarding which facilities, at a minimum, seemed to warrant four-factor analyses under RP.

On August 23, 2010, South Dakota provided a draft SIP for public comment. This draft also did not include four-factor analyses of potentially affected sources. The NPS did not comment (nor was it required to) on the issue; the EPA commented that the SIP should contain the four-factor analyses and again suggested several facilities, at a minimum, to be analyzed.

On January 21, 2011, South Dakota promulgated a final Regional Haze SIP. This version included four-factor analyses of some potentially affected sources for RP including GCC Dacotah Kilns #4 and #5. The SIP included responses to both FLM and public comments.

However, the State subsequently amended the SIP to, among other things, evaluate an additional control technology, SNCR, at Kilns #4 and #5. As a result, South Dakota provided a draft amended SIP on September 19, 2011. During the public comment period, the NPS commented on Kiln #6 as the NPS has stated above. The State presented the issue of SNCR for Kiln #6 to the South Dakota Board of Minerals and Environment at a hearing on August 18, 2011. South Dakota stated its reasons for relying on the 2003 BACT determination to reject SNCR as a possible control for Kiln #6 for RP.²⁵

²⁵ The audio of the August 18, 2011 hearing is available on the Board's website: <http://denr.sd.gov/boards/2011/2011sche.aspx>. We have placed a transcript of the relevant portions in the docket for this action.

Given these particular circumstances, we think that South Dakota has sufficiently met the requirements for FLM coordination and response to comments with regard to regional haze requirements for Kiln #6.

H. General Comments

Comment: The NPCA stated that South Dakota's SIP is inconsistent in that it requires adequate controls for certain facilities and not others. The commenter urged EPA to require additional emission reductions from South Dakota sources, mirroring the significant reductions being required in other states and for other sources throughout the country. The commenter referenced other actions in Region 6 and Region 8 as examples.²⁶

Response: We took into consideration South Dakota's analyses based on the statutory factors and determined that these analyses, and the control selections they support, were satisfactory to meet the regional haze requirements in this planning period. The State imposed stringent levels of control on its one BART source, Big Stone I, and provided sufficient justification based on its case-by-case analysis for emission limits at this source that are slightly above some of the examples cited by commenters. We also continue to find that, for GCC Dacotah under RP that the State provided sufficient basis for its reliance on its 2003 BACT determination as described elsewhere in our responses. Finally, as explained in the context of RP determinations in our responses elsewhere in this action, the Regional Haze Rule does not impose uniform numeric standards across states for emissions reductions. Therefore, the examples cited by NPCA are of limited utility.

Comment: One commenter stated that national parks and wilderness areas boost their area economies. Specifically, commenter cited 2010 visitation statistics for Badlands National Park

²⁶Federal Implementation Plans for the San Juan Generating Station in New Mexico (76 FR 52388) and Oklahoma (76 FR 81727) and the proposed Federal Implementation Plan for North Dakota (76 FR 58570).

(977,778) and Wind Cave National Park (577,141), and noted that similar visitation in 2009 resulted in \$61 million in spending and over 1,000 jobs. The commenter stated that reduction in visibility could result in decreased visits to Class I areas. The commenter also stated that installation of pollution control technologies is a job-creating mechanism.

Response: We agree with the comment. Although we did not consider the potential positive benefits to the local and national economies in making our decision today, we do expect that improved visibility would have a positive impact on tourism-dependent local economies. Also, some of these retrofits will create construction projects that we expect may take several years to complete, and will require well-paid, skilled labor which can potentially be drawn from the local area, which may benefit the economy.

Comment: One commenter stated that haze pollution significantly impacts human and ecosystem health. Specifically, the commenter asserted that haze pollution contributes to heart attacks, asthma attacks, chronic bronchitis and respiratory illness, increased hospital admissions, lost work and school days, and even premature death. The commenter also noted the specific haze pollutants NO_x, SO₂ and PM, which the commenter stated are all harmful to the human body.

The commenter also stated that haze pollution negatively impacts ecosystem health. The commenter specifically expressed concern for the effects of haze pollution on waterways, soils, plants and wildlife.

Response: We appreciate the commenter's concerns regarding the negative health impacts of emissions from facilities in South Dakota. We agree that the same PM_{2.5} emissions that cause visibility impairment can be inhaled deep into lungs, which can cause respiratory problems, decreased lung function, aggravated asthma, bronchitis, and premature death. We also agree that

the same NO_x emissions that cause visibility impairment also contribute to the formation of ground-level ozone, which has been linked with respiratory problems, aggravated asthma, and even permanent lung damage. We agree that these pollutants can have negative impacts on plants and ecosystems, damaging plants, trees and other vegetation, and reducing forest growth and crop yields, which could have a negative effect on species diversity in ecosystems.

However, for purposes of this action, we are not authorized to consider these impacts in evaluating the reasonableness of South Dakota's Regional Haze SIP, and we have not done so.

Comment: The environmental advocacy group CREDO Action submitted comments from 225 individuals. Many of these comments were identical, and most if not all generally requested that EPA strengthen our proposal, specifically at Big Stone I and GCC Dacotah Cement.

Response: EPA appreciates the comments, but is approving South Dakota's Regional Haze SIP as proposed for the reasons stated in the proposal and in previous responses to comments in this action.

Comment: South Dakota DENR stated that it believes the South Dakota Regional Haze SIP will improve visibility in the State's parks and provide improved visitor experience, and commends those involved in developing the SIP.

Response: EPA agrees with the commenter.

III. Final Action

EPA is taking final action to approve the State of South Dakota's Regional Haze SIP, submitted by the State on January 21, 2011, along with an amendment submitted on September 19, 2011. EPA finds that the South Dakota Regional Haze SIP submittal meets all of the applicable regional haze requirements set forth in section 169A and 169B of the Act and in the

Federal regulations codified at 40 CFR sections 51.300-308, and the requirements of 40 CFR part 51, subpart F and appendix V.

IV. Statutory and Executive Order Reviews

Under Executive Order 12866 (58 FR 51735, October 4, 1993), this action is not a "significant regulatory action" and therefore is not subject to review by the Office of Management and Budget. For this reason, this action is also not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355, May 22, 2001). This action merely approves state law as meeting Federal requirements and imposes no additional requirements beyond those imposed by state law. Accordingly, the Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Because this rule approves pre-existing requirements under state law and does not impose any additional enforceable duty beyond that required by state law, it does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4).

This rule also does not have tribal implications because it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified by Executive Order 13175 (65 FR 67249, November 9, 2000). This action also does not have Federalism implications because it does not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132 (64 FR 43255, August 10, 1999). This

action merely approves a state rule implementing a Federal standard, and does not alter the relationship or the distribution of power and responsibilities established in the Clean Air Act. This rule also is not subject to Executive Order 13045 “Protection of Children from Environmental Health Risks and Safety Risks” (62 FR 19885, April 23, 1997), because it approves a state rule implementing a Federal standard.

In reviewing SIP submissions, EPA’s role is to approve state choices, provided that they meet the criteria of the Clean Air Act. In this context, in the absence of a prior existing requirement for the State to use voluntary consensus standards (VCS), EPA has no authority to disapprove a SIP submission for failure to use VCS. It would thus be inconsistent with applicable law for EPA, when it reviews a SIP submission, to use VCS in place of a SIP submission that otherwise satisfies the provisions of the Clean Air Act. Thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*).

The Congressional Review Act, 5 U.S.C. section 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the Federal Register. A major rule cannot take effect until 60 days after it is published in the Federal Register. This action is not a “major rule” as defined by 5 U.S.C. section 804(2).

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by [insert date 60 days from date of publication of this document in the Federal Register]. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides, Volatile organic compounds.

Dated: March 29, 2012

Signed: James B. Martin
Regional Administrator
Region 8

40 CFR part 52 is amended to read as follows:

PART 52 - [AMENDED]

1. The authority citation for Part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 et seq.

Subpart QQ – South Dakota

2. In §52.2170 the table in paragraph (c)(1) is amended by adding a new section, 74:36:21 Regional Haze Program, in numerical order and the table in paragraph (e) is amended by adding entries for XII. South Dakota Regional Haze State Implementation Plan, and XIII. South Dakota Regional Haze State Implementation Plan, Amendment, in numerical order.

The amendments read as follows:

§ 52.2170 Identification of plan.

* * * * *

(c) * * *

(1) * * *

State citation	Title/subject	State effective date	EPA approval date and citation ¹	Explanations

¹ In order to determine the EPA effective date for a specific provision listed in this table, consult the Federal Register notice cited in this column for the particular provision.

State citation	Title/subject	State effective date	EPA approval date and citation ¹	Explanations
* * * * *				
74:36:21 Regional Haze Program				
74:36:21:01	Applicability	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:02	Definitions	9/19/11	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:03	Existing stationary facility defined	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:04	Visibility impact analysis	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document	

State citation	Title/subject	State effective date	EPA approval date and citation¹	Explanations
			begins.]	
74:36:21:05	BART determination	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:06	BART determination for a BART-eligible coal-fired power plant	9/19/11	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:07	Installation of controls based on visibility impact analysis or BART determination	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:08	Operation and maintenance of controls	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	

State citation	Title/subject	State effective date	EPA approval date and citation¹	Explanations
74:36:21:09	Monitoring, recordkeeping, and reporting	9/19/11	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:10	Permit to construct	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:11	Permit required for BART determination	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	
74:36:21:12	Federal land manager notification and review	12/7/10	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	

¹In order to determine the EPA effective date for a specific provision that is listed in this table, consult the Federal Register cited in this column for that particular provision.

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(e) * * *

Name of nonregulatory SIP provision	Applicable geographic or nonattainment area	State submittal date/adopted date	EPA approval date and citation ⁵	Explanations
* * * * *				
XII. South Dakota Regional Haze State Implementation Plan	Statewide	Submitted: 1/21/11	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	Excluding portions of the following: Sections 7.2, 7.3, 7.4, and 8.5 because these provisions were superseded by a later submittal.
XIII. South Dakota Regional Haze State Implementation Plan, Amendment	Statewide	Submitted: 9/19/11	[Insert Federal Register date of publication], [Insert Federal Register page number where the document begins.]	Including only portions of the following: Sections 7.2, 7.3, 7.4, and 8.5; excluding all other portions of the submittal.

⁵ In order to determine the EPA effective date for a specific provision listed in this table, consult the Federal Register notice cited in this column for the particular provision.

[FR Doc. 2012-8988 Filed 04/25/2012 at 8:45 am; Publication Date: 04/26/2012]